



**Department of Energy**  
Washington, DC 20585

ASSISTANT SECRETARY OF ENERGY  
FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY

MEMORANDUM OF DECISION

**SUBJECT: Determination of inapplicability (nationwide limited waiver in the public interest) of section 1605 of the Recovery Act of 2009 (the Buy American provision) to EERE-funded projects for incidental and/or ancillary solar Photovoltaic (PV) equipment, when this equipment is utilized in solar installations containing domestically manufactured PV cells or modules (panels).**

Under the authority of the Recovery Act, section 1605(b)(1), the head of a Federal department or agency may issue a “determination of inapplicability” (a waiver of the Buy American provisions) if the application of section 1605 would be inconsistent with the public interest. On November 10, 2009, the Secretary of Energy delegated the authority to make all inapplicability determinations to the Assistant Secretary for Energy Efficiency and Renewable Energy, for EERE Recovery Act projects.

Pursuant to this delegation, the Assistant Secretary has determined that application of section 1605 restrictions would be inconsistent with the public interest for incidental and/or ancillary solar Photovoltaic (PV) equipment, when this equipment is utilized in solar installations containing domestically manufactured PV cells or modules (panels).

Specifically, this public interest determination waives the Buy American requirements in EERE-funded Recovery Act projects for the purchase of the following solar PV equipment: 1) Domestically-manufactured modules containing foreign-manufactured cells, 2) Foreign-manufactured modules, when comprised of 100 percent domestically-manufactured cells, and 3) Any ancillary items and equipment (including, but not limited to, charge controllers, combiners and disconnect boxes, breakers and fuses, racks, trackers, lugs, wires, cables and all otherwise incidental equipment with the exception of inverters and batteries) when utilized in a solar installation involving a U.S. manufactured PV module, or a module manufactured abroad but comprised exclusively of domestically-manufactured cells. This waiver expires six months from the day it takes effect.

**Definitions** - Solar *cells* are the basic building block of PV technologies. The cells are functional semiconductors, made by processing and treating crystalline silicon or other photo-sensitive materials to create a layered product that generates electricity by absorbing light photons. The individual cells are assembled into larger groups known as *panels* or *modules*. These two terms are synonymous and used interchangeably in this memorandum. The panel is the end product, and consists of a series of solar cells, a backing surface, and a covering to protect the cells from weather and other types of damage. A solar *array* is created by installing multiple modules in the same location to increase the electrical generating capacity. Operational solar PV modules and arrays use cells to capture and transfer solar-generated electricity. The solar modules and cells represent the highest intellectual content and dollar-value items associated with solar PV energy generation.

The Buy American provisions contain no requirement with regard to the origin of components or subcomponents in manufactured goods used in a project, as long as the manufacturing occurs in the United States [(2 CFR 176.70(a)(2)(ii)]. However, determining where final “manufacturing” occurs is in the context of the complex solar production chain is complicated. Under a plain reading of the Recovery Act Buy American provisions, only the modules would need to be manufactured in the United States, but the source of the components parts – including cells – would not be relevant to complying with the Buy American requirements.

EERE and the National Renewable Energy Laboratory have conducted extensive research into the nature of the domestic solar manufacturing industry to determine the best way to apply the Buy American requirements for solar PV projects. EERE considered three basic options: (1) follow the current interpretation of the Buy American provisions and require that only the modules be produced in the United States, irrespective of the origin of the cells contained in the modules; (2) apply the interpretation that the modules and cells are distinct manufactured goods and thus both must be produced in the United States; or (3) choose a more inclusive approach that allows a solar installation to comply if either the cells *or* the module are manufactured in the United States.

Because of the dynamic nature of the solar PV manufacturing sector, the number of manufacturers given below is approximate. EERE is aware of companies in the process of moving manufacturing capacity into and out of the United States, and new companies may emerge that were not included in the most recent round of research. As a result, these numbers may fluctuate. In addition, thin-film solar PV modules are not covered by this waiver, as grantees have stated, and EERE’s research has confirmed, that these products do not meet the specifications for most Recovery Act- projects funded by EERE. In the event that a thin film installation is being purchased with EERE Recovery Act funds, then it would meet the Buy American provisions as long as the modules were manufactured in the U.S.

Option 1 is consistent with the current interpretation of the Buy American provisions, which are satisfied as long as final manufacturing takes place in the U.S. However, if EERE were to choose Option 1, there would be only four companies producing solar PV

modules in the United States that could sell their products to EERE grantees. If Option 2 were chosen, the market would be even more limited, with only two companies producing both the cell and the module in the United States. Finally, for Option 3, an additional five companies would be able to compete for grantees' solar PV projects in addition to the four that produce modules, bringing the total U.S. marketplace benefit to nine companies.

This public interest waiver affirms EERE's determination that the manufacturing process for cells and the final PV module production represent distinct and significant stages in the solar PV manufacturing chain. Conducting either of these discrete activities in the United States creates roughly equal numbers of American jobs. The design and manufacture of the cells also captures the largest portion of the intellectual property present in a solar array. Designing and increasing the efficiency of cells is high-value work that directly affects the end product. EERE believes the public interest is best served by supporting the domestic cell manufacturing industry at this time. It is therefore in the public interest to issue a waiver of the Recovery Act Buy American provisions that allows grantees to purchase foreign modules made with domestically-manufactured cells, in addition to domestic modules with foreign-produced cells.

Because the Assistant Secretary believes strongly in increasing the domestic PV manufacturing capacity in the United States, she is limiting the duration of this waiver to six months from the date it goes into effect, with the expectation that there will be an increase in the number of companies that produce modules in the United States containing domestically-manufactured cells.

This public interest waiver determination also resolves questions regarding the applicability of the Buy American provisions to numerous individual manufactured goods that are incidental in cost and technological significance but are ultimately incorporated into the final solar installation. These items, such as charge controllers, combiners and disconnect boxes, breakers and fuses, racks, trackers, lugs, wires, and cables, but excluding inverters and batteries, are generally low-cost incidental items that are incorporated into the installation of PV modules and arrays on public buildings and public works. This public interest waiver for all incidental and ancillary items eliminates potential questions and ambiguities concerning whether the incidental items are final manufactured goods or merely components of a larger solar module or array.

Issuance of this nationwide public interest waiver recognizes EERE's commitment to expeditious costing of Recovery Act dollars by enabling recipients to easily ascertain whether a given solar installation complies with the Buy American provision. Simultaneously, this waiver advances the purpose and the principles of the Buy American provision by focusing on the highest-value and most labor-intensive pieces of solar PV equipment.

In light of the foregoing, and under the authority of section 1605(b)(1) of Public Law 111-5 and Redelelegation Order 00-002-01C, dated November 10, 2009, with respect to Recovery Act projects funded by EERE, the Assistant Secretary hereby issues a "determination of inapplicability" (a waiver under the Recovery Act Buy American provisions) for the following items: 1) Domestically-manufactured modules containing foreign-manufactured cells, 2) Foreign-manufactured modules, when comprised of 100 percent domestically-manufactured cells, and 3) Any ancillary items and equipment (including, but not limited to, charge controllers, combiners and disconnect boxes, breakers and fuses, racks, trackers, lugs, wires, cables and all otherwise incidental equipment with the exception of inverters and batteries) when utilized in a solar installation involving a U.S. manufactured PV module, or a module manufactured abroad but comprised exclusively of domestically-manufactured cells. This waiver expires six months from the day it takes effect. Furthermore, the Assistant Secretary reserves the right to revisit and amend this determination based on new information or new developments.



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U.S. Department of Energy

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